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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL CHEMISTRY AND ENGINEERING

FOURTH SEMI-ANNUAL

NAVAL STORES REPORT

on

Production, Distribution, Consumption and Stocks

of

TURPENTINE AND ROSIN

of the

UNITED STATES

Apr. 1, 1939 - Sept. 30, 1939

Issued Nov. 15, 1939.

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Compiled by

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Naval Stores Research Division

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ACE-10

The Commercial Production of Prepared Mustard, Table Mustard, and Mustard Dressing.

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By

V. A. Pease,
Food Research Division,
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U. S. Department of Agriculture,
Washington, D. C.

The ingredients used in the manufacture of mustard are mustard seeds of several varieties, vinegar, salt, and a wide variety of spices.

In practically all types of prepared mustard, a blend of different varieties of mustard seed is used, the exact proportion of each variety depending partly upon the color and falvor desired in the finished product, and partly upon current market conditions.

Practically all formulas call for either or both white (or yellow) mustard seed and black (or brown) mustard seed. All varieties of mustard seed contain a bland fixed oil. The seed of the white mustard, Sinapis alba, contains little or none of the hot, volatile mustard oil (allyl isothiocyanate). This seed is the main ingredient in the mild, yellow, or French style mustard. Black mustard seed, from Brassica nigra, or related varieties, contains appreciable quantities of the volatile mustard oil (not less than 0.6 percent). Brassica juncea, also extensively used, is an Oreiental species with a yellow seed but containing appreciable quantities of volatile oil.

Distilled (white or spirit) vinegar is used, cut to a strength of 35 to 40 grain. Enough vinegar must be used to give the proper consistency and flavor, and to assist in the preservation of the product. Too much vinegar should not be used because a pronounced acid flavor is not desirable.

The spices used depend to a great extent upon the market to be supplied. Some sections of the country prefer a mild smooth flavor, while others demand a hot, highly spiced product. Among the spices used are cinnamon, cloves, nutmeg, ginger, allspice, black, red, cayenne, and tabasco peppers, bay leaves, celery seed, turmeric, curry powder, thyme and powdered garlic.

The mustard seeds are crushed, the vinegar is diluted to the proper strength, the spices are finely ground, the salt is freed from lumps, and the ingredients for a given formula are weighed or measured, and blended in a large vat before milling.

A wet grinding process is used, the blended ingredients being run through buhr stones and finished in a second set of stones. The stones must be carefully and frequently dressed by an experienced person and must be loosened and readjusted to the proper pressure after every stopping of the mill.

A good "finish" depends upon the cut of the stones, the pressure or "set" of the stones, the speed of rotation, and the rate of flow of the mix.

For immediate use, to be made up in smaller quantities, a prepared mustard may be made by stirring boiling vinegar into mustard flour. Salt and spices or spice oils should be added to the vinegar before blending with the mustard flour.

Cheap imitation mustards are on the market, in which more or less mustard bran (ground mustard hulls) is used as a filler.

Formulas for the various types of mustard will be found in the articles given in the attached "List of Articles on Prepared Mustard". These formulas have not been tested and are not approved or authorized by the U. S. Department of Agriculture, or by this Division. They are merely given for information.

Equipment required in a mustard plant includes mixing tanks, pumps, grinding and finishing mills, and the usual weighing and measuring devices and labelling machines.

Lists of manufacturers of equipment, containers, and labels may be found in manufacturer's guides and commercial directories available in local chambers of commerce, public libraries, and leading banks.

If contemplating the manufacture of mustard products for sale within or across state boundaries, state or federal food control officials should be consulted as to label requirements.

Attached:
List of Articles on Prepared Mustard.

VAP EAD
9/6/39

List of Articles on

Prepared Mustard.

Compiled by
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Food Research Division,
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U. S. Department of Agriculture,
Washington, D. C.

McBride, P. H.
1928. Manufacture of prepared mustard — Layout for mustard grinding plant. The Canner, vol. 66, no. 3, pp. 37-39, Jan. 7; no. 5, pp. 54, 56, Jan. 21.

Jank, J. K.
1928. Mustard and its various uses in preparing numerous table condiments. The Spice Mill, vol. 51, pp. 1688-91, Sept.

Burton, L. V.
1930. Wet grinding characterizes the manufacture of prepared mustard. Food Industries, vol. 2, pp. 116-20.

White, D.
1936. Prepared mustard — What it is — Its practical manufacture. The Spice Mill, vol. 59, pp. 417-18, June; pp. 485-86, July; pp. 563-64, August; pp. 631-32, Sept.

Campbell, C. H.
1937. Campbell's Book, Revised Edition, Chapter XXXVI, Part 5, Mustard, pp. 685-702.

These references may be consulted in comprehensive public and technical libraries.

FOREWORD

This is the fourth semi-annual naval stores report on production, consumption and stocks of naval stores.

If the production figures are used as a basis for estimating this season's probable production, the fact that gum naval stores production is seasonal should be borne in mind. Normally, approximately 72 percent of the total annual gum crop is produced from the beginning of April through September. Wood naval stores production, on the other hand, is not seasonal, but is based largely upon probable consumer demand. It is therefore probable that the wood naval stores production figures for the April-September period represent approximately 50 percent of the probable production of this class for the season.

As in previous reports, carryover (stocks) of turpentine and rosin is separated into gum and wood products. Stocks of wood rosin do not include so-called "B wood rosin." Pending the selection of a proper term, we continue to refer to the resin acids recovered from the acidulated soap curds obtained in the production of sulphate pulp as "liquid rosin."

The data on production, consumption and stocks are expressed in commercial units: For turpentine -- barrels of 50 gauge gallons; and for rosin -- barrels of approximately 500 pounds gross weight. Carryover (stocks) figures do not include turpentine or rosin producible from crude gum or crude steam distilled or destructively distilled wood turpentine on hand.

The summary of production and stocks supplied by the Bureau of Foreign and Domestic Commerce, Department of Commerce, for some of the leading foreign producing countries is the best information available at this time.

These reports are designed to be of use to the industry -- producer, factor, distributor and consumer. Every effort is made to obtain complete and accurate information but the responsibility for completeness, accuracy and promptness of issue depends upon the cooperation of those reporting. In studying the data given in this, as well as in the previous reports, it should be borne in mind that the Bureau of Agricultural Chemistry and Engineering merely assembles the figures from the individual reports received.

The date of issue reflects the promptness of receipt of reports. It is our hope that these reports can be issued within 30 days of the end of the six-month period.

The Bureau of Agricultural Chemistry and Engineering extends its thanks to those producers, factors, distributors and consumers who have so kindly cooperated in furnishing the requested reports. The Bureau is particularly grateful for the continued cooperation and constructive comment of Mr. J. E. Lockwood.

SUMMARY OF SUPPLY, DISTRIBUTION AND CARRYOVER OF TURPENTINE AND ROSIN

(By naval stores seasons beginning April 1 and ending the following March 31)

	TURPENTINE			ROSIN		
	1939-40	1938-39	1938-39	1939-40	1938-39	1938-39
	Apr.-Sept.	Apr.-Sept.	Apr.-Mch.	Apr.-Sept.	Apr.-Sept.	Apr.-Mch.
	6 mos.	6 mos.	12 mos.	6 mos.	6 mos.	12 mos.
	(Bbls. - 50 gals.)			(Bbls.-500 lbs. gross)		
TABLE 1 - SUPPLY AND DISTRIBUTION						
Carryover April 1[1]	314,323	218,774	218,774	1,621,970	999,347	999,347
Production[2]	354,702	463,370	709,218	1,348,183	1,635,207	2,612,391
Imports[3]	11,664	7,677	16,571	2,175	261	340
Available supply	680,689	689,821	944,563	2,972,328	2,634,815	3,612,078
Less carryover Sept. 30	293,269	354,981	314,323	1,728,166	1,581,530	1,621,970
Apparent total consumption	387,420	334,840	630,240	1,244,162	1,053,285	1,990,108
Less exports[4]	131,125	110,123	210,226	467,754	439,783	821,381
Apparent U. S. consumption	256,295	224,717	420,014	776,408	613,502	1,168,727
TABLE 2 - PRODUCTION AND IMPORTS						
Gum	270,167	386,018	534,291	917,773[5]	1,264,043[5]	1,832,930[5]
Wood	84,535	77,352	174,927	430,410	371,164	779,461
Imports	11,664	7,677	16,571	2,175	261	340
Total	366,366	471,047	725,789	1,350,358	1,635,468	2,612,731
TABLE 3 - CARRYOVER (STOCKS)						
Carryover April 1	314,323	218,774	218,774	1,621,970	999,347	999,347
Carryover September 30	293,269	354,981	314,323	1,728,166	1,581,530	1,621,970[6]
Increase	---	136,207	95,549	106,196	582,183	622,623
Decrease	21,054	---	---	---	---	---

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(1) Table 6 of the 1938-39 Annual Report.

(2) Table 4.

(3) Table 8 of this and 1938-39 Annual Report.

(4) Table 10-15 of this and 1938-39 Annual Report.

(5) Includes reclaimed rosin.

(6) Carryover for March 31.

DETAILS OF PRODUCTION

(By naval stores seasons beginning April 1 and ending the following March 31.)

TABLE 4 - PRODUCTION

	TURPENTINE			ROSIN		
	1939-40 Apr.-Sept. 6 mos.	1938-39 Apr.-Sept. 6 mos.	1938-39 Apr.-Mch. 12 mos.	1939-40 Apr.-Sept. 6 mos.	1938-39 Apr.-Sept. 6 mos.	1938-39 Apr.-Mch. 12 mos.
	(Bbls. - 50 gals.)			(Bbls. - 500 lbs. gross)		
Gum[1]	270,167	386,018	534,291	900,442	1,242,901	1,792,951
Reclaimed (Gum)	0	0	0	17,331	21,142	39,979
Steam. Dist. Wood	66,234	57,045	129,091	420,031	364,592	762,913
Sulphate Wood	15,300	17,823	40,467[2]	10,379	6,572	16,548
Dest. Dist. Wood	3,001	2,484	5,369	0	0	0
Total	354,702	463,370	709,218	1,348,183	1,635,207	2,612,391

TABLE 5 - GUM TURPENTINE AND ROSIN PRODUCTION BY STATES

States						
North Carolina	[3]	[3]	[3]	[3]	[3]	[3]
South Carolina	6,548	10,781	14,387	22,263	34,943	50,156
Georgia	160,073	225,329	305,791	535,000	717,299	1,016,643
Florida	71,328	97,496	148,870	236,357	319,520	504,691
Alabama	22,404	38,283	44,730	73,914	123,290	149,649
Mississippi	7,358	11,352	16,652	24,751	38,786	58,639
Louisiana	2,456	2,777	3,861	8,157	9,063	13,173
Texas	[4]	[4]	[4]	[4]	[4]	[4]
Total	270,167	386,018	534,291	900,442	1,242,901	1,792,951

GUM TURPENTINE PRODUCTION

Percentage by States

	1939-40 - 6 mos.	1938-39 - 6 mos.	1938-39 - 12 mos.
North Carllina	[3]	[3]	[3]
South Carolina	2.43	2.79	2.69
Georgia	59.26	58.37	57.24
Florida	26.40	25.26	27.86
Alabama	8.28	9.92	8.38
Mississippi	2.72	2.94	3.11
Louisiana	0.91	0.72	0.72
Texas	[4]	[4]	[4]
Total	100.00	100.00	100.00

(1) Gum naval stores production includes barrels of turpentine and barrels of rosin estimated for those from whom reports were not received. These estimates, based on information from factors and others, are included to permit a better comparison with previous years.

(2) Several producers reported that all or part of their crude sulphate turpentine had been used for fuel. Turpentine so reported is not included in production or consumption figures.

(3) Combined with South Carolina.

(4) Combined with Louisiana.

TABLE 6 - DETAILS OF CARRYOVER (Stocks)

	TURPENTINE				ROSIN			
	(Bbls. - 50 gals.)				(Bbls. 500 lbs. gross)			
	1939		1938	1939	1939		1938	1939
	Sept. 30		Sept. 30	March 31	Sept. 30		Sept. 30	March 31
	Gum	Wood	Gum and Wood	Gum and Wood	Gum	Wood	Gum and Wood	Gum and Wood
Gum stills[1]	13,723	---	16,470	16,858	81,917	---	162,276	137,597
So. Conc. points								
Savannah[2]	26,243	---	52,488	37,639	263,489	---	257,406	281,882
Jacksonville[2]	49,500	---	46,328	44,454	330,603	---	222,469	261,099
Pensacola[2]	19,902	---	32,009	27,533	66,738	---	62,337	65,107
Other So. Ports	45,141	---	74,804	63,114	264,158	---	217,586	242,716
Interior yards	75,590	---	51,101	49,270	390,090	---	158,251	201,685
Total	216,376	---	256,730	222,010	1,315,078	---	918,049	1,052,489
Wood plants:								
Steam dist.[3]	---	6,419	13,027	13,026	---	60,505	136,575	152,042
Sulphate	---	3,692	7,418	6,238	---	4,471	3,307	5,201
Destructive dist.	---	622	1,234	652	---	---	---	---
Total	---	10,733	21,679	19,916	---	64,976	139,882	157,243
Distributing points:								
Eastern	6,591	3,179	10,522	10,410	3,785	3,380	7,586	9,450
Central	16,309	4,920	26,816	21,991	5,657	2,329	9,985	8,696
Western	2,109	1,425	6,989	6,130	499	391	1,241	1,031
Total[4]	25,009	9,524	44,327	38,531	9,941	6,100	18,812	19,177
Industrial plants[5]	12,752	5,152	15,775	17,008	199,157	50,997	342,511	255,464

TABLE 7 - SUMMARY OF CARRYOVER (Stocks)

Gum stills	13,723	---	16,470	16,858	81,917	---	162,276	137,597
Conc. points	216,376	---	256,730	222,010	1,315,078	---	918,049	1,052,489
Wood plants	---	10,733	21,679	19,916	---	64,976	139,882	157,243
Dist. points	25,009	9,524	44,327	38,531	9,941	6,100	18,812	19,177
Industrial plants	12,752	5,152	15,775	17,008	199,157	50,997	342,511	255,464
Total in U.S.	267,860	25,409	354,981	314,323	1,606,093	122,073	1,581,530	1,621,970
At and afloat to London[6]	not available		31,300	25,050				
Total U. S. and London			386,281	339,373				

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(1) Compiled from reports by producers and factors.

(2) Official Board of Trade and Chamber of Commerce reports.

(3) Does not include by-products from making pale grades from FF wood rosin.

(4) Compiled from reports of individual distributors.

(5) Compiled from reports of individual consumers.

(6) Gum and wood. Included because of the importance of its effect on the American market.

UNITED STATES IMPORTS OF NAVAL STORES

(By naval stores seasons beginning April 1 and ending the following March 31)

TABLE 8 - IMPORTS, SPIRITS OF TURPENTINE

(Bbls. - 50 gal.)

Shipped from	1939-40 Apr.-Sept. 6 mos.	1938-39 Apr.-Sept. 6 mos.	1938-39 Apr.-March 12 mos.
Austria	0	0	0
Canada	0	0	0
France	0	0	4
Germany	0	0	0
Greece	0	0	0
Italy	0	23	0
Mexico	11,636	7,424	16,567
Netherlands	0	0	0
Norway	0	106	0
Portugal	0	0	0
Soviet Russia	0	0	0
Spain	0	0	0
Sweden	0	1	0
United Kingdom	0	123	0
Other countries	28	0	0
Total	11,664	7,677	16,571

TABLE 9 - IMPORTS, ROSIN

(Bbls. 500-lbs. gross)

Austria	0	0	0
Canada	0	24	0
France	1	26	29
Germany	0	0	0
Greece	4	0	0
Italy	0	0	0
Mexico	2,160	185	311
Netherlands	0	0	0
Norway	0	0	0
Portugal	0	26	0
Soviet Russia	0	0	0
Spain	0	0	0
Sweden	0	0	0
United Kingdom	0	0	0
Other Countries	10	0	0
Total	2,175	261	340

(Source of Information - Bureau of Foreign and Domestic Commerce.)

Note: As government records of imports of turpentine and rosin do not require any declaration as to whether they are gum or wood products, the available statistics in consequence show only total turpentine and total rosin imports.

UNITED STATES EXPORTS OF TURPENTINE

(By naval stores seasons beginning April 1 and ending the following March 31.)

TABLE 10 - TOTAL EXPORTS OF TURPENTINE

(Bbls. - 50 gal.)

Destination	1939-40	1938-39	1938-39
	Apr.-Sept.	Apr.-Sept.	Apr.-March
	6 mos.	6 mos.	12 mos.
United Kingdom	68,621	57,666	104,842
Germany and N. Europe	22,110	22,509	42,234
Italy and S. Europe	4,044	760	3,893
Argentine	2,172	1,543	3,160
Brazil	1,600	1,243	2,546
Other South America	2,857	2,150	4,161
Japan	27	419	723
Australia and New Zealand	8,548	6,872	16,031
Netherlands East Indies	58	13	28
Canada	16,011	13,161	24,223
All other Exports	5,077	3,787	8,385
Total	131,125	110,123	210,226

TABLE 11 - EXPORTS, GUM SPIRITS OF TURPENTINE

Destination	1939-40	1938-39	1938-39
United Kingdom	58,927	51,569	92,284
Germany and N. Europe	19,128	16,675	33,990
Italy and S. Europe	2,009	284	1,136
Argentine	1,888	1,272	2,785
Brazil	1,170	981	1,903
Other South America	2,467	1,825	3,433
Japan	27	207	328
Australia and New Zealand	6,242	4,803	12,043
Netherlands East Indies	55	13	19
Canada	13,621	11,636	21,343
All other Exports	3,332	2,506	5,645
Total	108,866	91,771	174,909

TABLE 12 - EXPORTS, WOOD TURPENTINE

Destination	1939-40	1938-39	1938-39
United Kingdom	9,694	6,097	12,558
Germany and N. Europe	2,982	5,834	8,244
Italy and S. Europe	2,035	476	2,757
Argentine	284	271	375
Brazil	430	262	643
Other South America	390	325	728
Japan	0	212	395
Australia and New Zealand	2,306	2,069	3,988
Netherlands East Indies	3	----	9
Canada	2,390	1,525	2,880
All other Exports	1,745	1,281	2,740
Total	22,259	18,352	35,317

(Source of Information - Bureau of Foreign and Domestic Commerce.)

UNITED STATES EXPORTS OF ROSIN

(By naval stores seasons beginning April 1 and ending the following March 31.)

TABLE 13 - TOTAL EXPORTS OF ROSIN[1]

(Bbls. - 500 lbs. gross)

Destination	1939-40 Apr.-Sept. 6 mos.	1938-39 Apr.-Sept. 6 mos.	1938-39 Apr.-March 12 mos.
United Kingdom	114,914	113,884	207,720
Germany and N. Europe	140,201	88,380	193,666
Italy and S. Europe	2,929	23,148	40,270
Argentine	24,247	24,282	41,800
Brazil	38,258	39,380	59,646
Other South America	22,160	19,313	32,685
Japan	24,506	28,269	58,624
Australia and New Zealand	14,614	12,982	25,814
Netherlands East Indies	18,344	24,639	42,138
Canada	27,749	26,544	48,508
All other Exports	39,832	38,962	70,510
Total	467,754	439,783	821,381

TABLE 14 - EXPORTS OF GUM ROSIN

United Kingdom	75,077	69,615	125,844
Germany and N. Europe	86,487	47,594	109,695
Italy and S. Europe	1,703	17,707	29,287
Argentine	15,748	15,353	25,515
Brazil	9,477	15,810	23,069
Other South America	12,540	12,132	18,924
Japan	19,221	25,082	51,027
Australia and New Zealand	11,403	8,262	16,995
Netherlands East Indies	9,893	15,118	25,355
Canada	19,549	19,416	36,127
All other Exports	28,512	18,348	37,368
Total	289,610	264,437	499,206

TABLE 15 - EXPORTS OF WOOD ROSIN[1]

United Kingdom	39,837	44,269	81,876
Germany and N. Europe	53,714	40,786	83,971
Italy and S. Europe	1,226	5,441	10,983
Argentine	8,499	8,929	16,285
Brazil	28,781	23,570	36,577
Other South America	9,620	7,181	13,761
Japan	5,285	3,187	7,597
Australia and New Zealand	3,211	4,720	8,819
Netherlands East Indies	8,451	9,521	16,783
Canada	8,200	7,128	12,381
All other Exports	11,320	20,614	33,142
Total	178,144	175,346	322,175

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(1) Includes product commonly referred to as "B Wood Rosin."

(Source of Information - Bureau of Foreign and Domestic Commerce.)

TABLE 16 - REPORTED CONSUMPTION OF TURPENTINE AND ROSIN IN THE UNITED STATES

(Combined Gum and Wood Products)

	TURPENTINE			ROSIN		
	1939-40 Apr.-Sept. 6 mos.	1938-39 Apr.-Sept. 6 mos.	1938-39 Apr.-March 12 mos.	1939-40 Apr.-Sept. 6 mos.	1938-39 Apr. Sept. 6 mos.	1938-39 Apr.-March 12 mos.
	(Bbls.-50 gals.)			(Bbls.-500 lbs. gross)		
Abattoirs	0	0	0	657	797	2,173
Adhesives and plastics	296	255	526	7,848	6,349	11,816
Asphaltic products	1	0	1	576	595	968
Automobiles and wagons	203	205	354	257	152	328
Chemicals and pharmaceuticals[1]	9,971	7,064	22,249	76,748	44,166	123,339
Ester gum and synthetic resins	0	0	9	68,683	43,365	108,611
Foundries and foundry supplies	322	296	576	4,603	3,169	7,950
Furniture	273	263	521	16	4	18
Insecticides and disinfectants	225	256	452	2,409	2,589	3,963
Linoleum and floor covering	69	32	68	14,803	11,931	27,313
Matches	0	0	0	1,332	888	2,240
Oils and greases	15	24	37	13,787	9,836	23,767
Paint, varnish and lacquer	29,682	27,450	51,292	74,243	62,081	130,278
Paper and paper size	0	0	0	172,108	151,438	318,361
Printing ink	251	204	489	5,603	6,092	11,564
Railroads and shipyards	2,343	1,416	3,872	495	375	1,365
Rubber	75	54	125	2,345	1,356	3,919
Shoe polish and shoe materials	4,888	2,845	10,711	5,279	4,752	10,677
Soap	5	100	213	110,275	126,034	234,927
Other industries	687	861	1,800	2,091	2,516	4,415
Total industrial reported	49,306	41,325	93,295	564,158	478,485	1,027,992
Not accounted for[2]	206,989	183,392	326,719	212,250	135,017	140,735
Apparent U. S. consumption[3]	256,295	224,717	420,014	776,408	613,502	1,168,727

(1) Includes turpentine and rosin consumed in producers' plants in the production of unclassified derived products.

(2) Principally unreported distribution of turpentine through retailers who sell in small quantities to ultimate consumers, and unreported industrial consumption of rosin; also rosin distributed through retailers who sell in small quantities to utlimate consumers.

(3) From Table 1, page 1.

TABLE 17 - AVERAGE MONTHLY AND SEASON PRICES OF GUM SPIRITS OF TURPENTINE - 1921-22 to SEPT. 30, 1939[1]

(Based upon Wednesdays and Saturdays closing Savannah Prices)[2]

Season	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Average
						(Cents per Gallon)							
1921-22	53.17	61,83	52.62	53.06	56.55	65.15	69.04	73.44	74.14	83.86	86.07	80.92	62.62
1922-23	79.50	86.07	106.54	113.07	110.61	123.31	145.94	151.25	130.71	145.87	143.29	147.53	119.82
1923-24	145.32	105.48	94.74	88.73	88.83	91.61	83.86	88.50	86.36	94.88	95.37	95.72	95.22
1924-25	91.82	83.49	77.63	77.66	82.99	82.28	81.43	79.24	77.64	86.40	87.95	86.00	81.30
1925-26	87.39	97.39	92.48	90.08	95.29	106.25	105.56	104.79	93.77	99.72	92.69	93.81	96.66
1926-27	89.86	79.67	80.14	82.07	89.31	86.00	84.75	82.69	80.85	76.07	68.00	67.38	82.62
1927-28	60.61	56.41	51.24	50.64	52.31	49.22	46.71	44.36	49.49	55.03	54.94	54.82	51.38
1928-29	52.06	47.87	50.87	49.83	47.58	46.40	48.18	54.22	55.50	56.47	53.16	52.42	50.54
1929-30	48.78	48.90	46.83	47.11	46.68	49.74	50.82	47.85	48.13	49.42	50.12	50.67	48.28
1930-31	48.42	43.51	41.33	37.56	35.32	38.26	35.60	37.03	36.14	38.11	39.97	47.81	39.34
1931-32	50.44	49.42	50.69	39.77	31.40	31.88	31.17	35.21	33.83	34.68	34.84	40.06	40.10
1932-33	39.50	39.44	38.64	35.94	37.68	41.09	40.86	39.71	37.04	39.88	39.75	39.46	38.82
1933-34	37.88	42.47	40.39	46.39	42.83	41.97	40.81	42.14	42.07	47.44	57.00	55.00	42.72
1934-35	53.66	50.81	46.44	42.82	41.83	41.19	46.59	48.00	46.46	49.59	50.53	49.71	45.64
1935-36	47.37	47.07	44.46	42.40	38.47	40.91	45.76	44.92	43.96	45.19	44.44	39.31	43.53
1936-37	37.43	36.26	35.86	36.44	38.73	37.19	36.33	38.25	41.59	43.13	41.84	39.01	37.48
1937-38	35.97	35.83	34.07	33.44	31.94	29.93	27.28	26.92	26.14	28.18	26.47	25.42	31.36
1938-39	23.18	22.69	22.56	23.24	22.53	20.92	22.81	22.32	22.31	24.78	25.56	28.42	22.61
1939-40	24.96	23.93	24.00	24.11	23.72	26.11							[3]

(1) The monthly prices were obtained by averaging the Wednesday and Saturday closing prices. The season average price was obtained by multiplying each monthly price by the combined reported receipts during that month at Savannah, Jacksonville and Pensacola and dividing the total of these figures for the season by the total receipts for that season, thereby giving the months of heavy receipts and of low receipts their proper relative values.

(2) Wednesdays and Fridays closing Savannah prices used for December, January and February, for 1936-37, and 1937-38. Fridays prices used for 1938-39 and 1939-40 when there was no quoted Saturday market.

(3) Season average will be given in Annual Report.

Sources of data: Prices, Florida inspections and monthly receipts at Savannah, Jacksonville and Pensacola are taken from the NAVAL STORES REVIEW AND JOURNAL OF TRADE, DAILY MARKET REPORTS OF THE SAVANNAH EXCHANGE, JACKSONVILLE AND PENSACOLA CHAMBERS OF COMMERCE. Economic Analysis Unit, General Crops Section, Agricultural Adjustment Administration.

TABLE 18 - AVERAGE MONTHLY AND SEASON PRICES OF GUM ROSIN 280-lb. Bbls.) - 1921-22 to SEPT. 30, 1939[1]

(Based upon Wednesdays and Saturdays closing Savannah Prices)[2]

Season	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Average
					In dollars per barrel of 280 pounds gross weight								
1921-22	4.00	4.42	3.87	3.78	4.00	4.39	4.34	4.42	4.47	4.21	4.22	4.10	4.20
1922-23	4.35	4.79	5.09	5.23	5.25	5.52	5.75	5.48	5.14	5.07	5.15	5.17	5.20
1923-24	4.96	4.88	4.82	4.78	4.66	4.62	4.57	4.44	4.80	4.88	4.69	4.74	4.67
1924-25	4.81	4.88	4.72	4.71	4.94	5.20	5.99	6.46	6.49	7.19	7.28	7.24	5.61
1925-26	7.52	9.01	8.78	9.15	10.22	13.02	14.33	14.22	13.05	12.09	13.34	12.66	11.11
1926-27	11.66	10.42	12.18	13.09	12.53	13.92	12.32	11.64	11.64	11.98	11.98	10.42	12.20
1927-28	9.77	9.11	8.46	8.32	8.96	8.47	7.64	6.87	7.64	8.61	8.38	8.58	8.35
1928-29	8.31	7.68	8.24	8.53	8.32	8.06	8.20	8.53	8.57	8.57	8.36	8.08	8.29
1929-30	7.50	7.39	7.31	7.49	7.44	7.87	8.16	7.62	7.34	7.48	7.45	7.22	7.54
1930-31	6.85	6.16	5.65	4.78	4.42	4.77	4.37	4.45	4.46	4.30	4.52	4.95	5.02
1931-32	4.96	5.01	5.26	3.95	3.12	3.04	2.95	3.27	3.10	3.10	3.18	3.67	3.89
1932-33	2.98	2.91	2.74	2.54	2.32	3.23	3.07	2.94	2.92	2.98	2.90	2.90	2.83
1933-34	2.95	3.54	3.53	4.09	3.83	3.91	3.86	3.92	3.90	4.24	5.04	5.06	3.88
1934-35	5.09	4.87	4.55	4.30	4.37	4.43	4.52	4.45	4.48	4.73	4.86	4.79	4.55
1935-36	4.67	4.72	4.58	4.44	4.12	4.38	4.81	4.71	4.55	4.60	4.57	4.60	4.54
1936-37	4.38	4.32	4.70	5.42	6.68	6.00	6.23	7.26	9.28	10.20	9.76	8.97	6.42
1937-38	8.07	8.30	8.15	8.00	7.98	8.03	7.35	6.21	5.55	5.92	5.38	4.73	7.35
1938-39	4.87	4.67	4.81	5.15	4.98	4.72	5.28	5.64	5.09	5.12	5.29	5.79	5.02
1939-40	5.22	5.19	5.34	5.49	5.34	5.66							3

Note: Rosin Grades included in average pricos follow -- X, WW, WG, N, M, K, I, H, G, F, E, D, B.

(1) The monthly prices were obtained by multiplying the average of the Wednesday and Saturday prices of each grado by the number of barrels of each grade reported as inspected in Florida during that month, and dividing the total of the resulting figures by the total number of barrels inspected in Florida during that month, thereby giving the proper relative value to each grade. The season average price was obtained by multiplying each monthly price by the combined reported receipts during that month at Savannah, Jacksonville and Pensacola and dividing the total of these figures for the season by the total recoipts for the season, thereby giving the months of heavy receipts and of low receipts their proper relative value.

(2) Wednesdays and Fridays closing Savannah prices used for December, January and February for 1936-37 and 1937-38. Fridays prices used for 1938-39 and 1939-40 when there was no quoted Savannah market.

(3) Season average will be given in Annual Report.

Sourcos of data: Prices, Florida inspections and monthly receipts at Savannah, Jacksonville and Pensacola are taken from the NAVAL STORES REVIEW AND JOURNAL OF TRADE, DAILY MARKET REPORTS OF THE SAVANNAH EXCHANGE, JACKSONVILLE AND PENSACOLA CHAMBERS OF COMMERCE.
Economic Analysis Unit, General Crops Section, Agricultural Adjustment Administration.

TABLE 19 - FOREIGN PRODUCTION, STOCKS AND EXPORTS

Supplied by Chemical Division, Bureau of Foreign and Domestic Commerce,
Department of Commerce.

	TURPENTINE			ROSIN		
	1939	1938	1938-39	1939	1938	1938-39
	Apr.-Sept. 6 mos.	Apr.-Sept. 6 mos.	Apr.-March 12 mos.	Apr.-Sept. 6 mos.	Apr.-Sept. 6 mos.	Apr.-March 12 mos.
	(Bbls. - 50 gals.)			(Bbls. - 500 lbs. gross)		
FRANCE						
Production	---	134,028	132,200	---	398,870	401,000
Stocks	---	---	31,120[1]	---	---	99,750[1]
Exports	---	6,040	20,454	---	112,275	237,595
PORTUGAL						
Production	---	52,662	84,187	---	141,400	286,721
Stocks	---	---	61,200[2]	---	---	157,500[2]
Exports	---	38,127	70,716	---	59,840	200,194
SPAIN						
Production	---	---	---	---	---	---
Stocks	---	---	---	---	---	---
Exports	---	---	---	---	---	---
GREECE						
Production	---	27,500	48,960	---	89,000	90,000
Stocks	---	---	612[3]	---	---	2,670[3]
Exports	---	8,513[5]	22,815[4]	---	31,297[5]	76,252[4]
MEXICO						
Production	---	5,200	8,914	---	13,575	26,977
Stocks	---	1,940	3,188	---	3,586	4,819
Exports	---	4,906[6]	16,180	---	7,031[6]	13,944
INDIA						
Production	---	5,771	13,857	---	18,808	36,639
Stocks	---	9,663	8,123	---	13,679	16,100
Exports	---	1,224	4,391	---	637	1,183
RUSSIA						
Production	---	---	103,281	---	---	260,600
Stocks	---	---	---	---	---	---
Exports	---	---	---	---	---	---

Note: Production and stocks are estimates based upon reports received from American Consuls and Commercial Attaches.

Unless otherwise noted, stocks are at end of period stated.

Blanks indicate figures are not available.

(1) January 1, 1939

(2) December 31, 1938

(3) April 30, 1939

(4) May 1, 1938 - April 30, 1939

(5) 4 mos.--May-August

(6) 5 mos.--May-September